



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/506,364

09/02/2004

Masaki Tanabe

10873.1494USWO

1085

53148 7590 03/20/2007
HAMRE, SCHUMANN, MUELLER & LARSON P.C.
P.O. BOX 2902-0902
MINNEAPOLIS, MN 55402

EXAMINER

WON, BUMSUK

ART UNIT

PAPER NUMBER

2879

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/506,364	Applicant(s) TANABE ET AL.	
	Examiner Bumsuk Won	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/04, 10/04, 10/06, 01/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract contains "comprising" which is a legal phraseology. Correction is required. See MPEP § 608.01(b).

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested:
Discharge lamp device and backlight having external electrode unit.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2879

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 12, "a shielding material" is confusing what the material shields. Appropriate action is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 10, 11, 15, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura (JP 2000-106144) which is cited in the IDS.

Regarding claim 1, Nishimura discloses a lamp (figures 1-3) comprising: a cylindrical arc tube (1) containing a discharge medium (paragraph 28); an internal electrode (3) provided in the arc tube; and an external electrode unit (4, 4a, 4b, 4c) includes external electrodes (4) arranged intermittently (figures 2, 3) at plural places in a direction of a tube axis, each having a part (4c) adjoining an outer wall surface of the arc tube; and an engaging part (4a) that integrally links the external electrodes and is engaged with the arc tube, and a part (4a) of the engaging part holds the arc tube, so that the external electrode unit is held around the arc tube.

The examiner notes that the claim limitation of the voltage being applied between the internal and the external electrodes is drawn to a functional claim limitation which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a functional claim limitation. Consequently, absent a

Art Unit: 2879

showing of an unobvious difference between the claimed product and the prior art, the subject functional claim limitation is not afforded patentable weight (MPEP 2114).

Regarding claim 2, Nishimura discloses the external electrode unit is formed as an electrode member (4) incorporating the external electrodes (4) and the engaging part (4a) and is shaped to cover half or more of the arc tube in the circumferential direction (figure 1).

Regarding claim 3, Nishimura discloses a dielectric member (paragraph 44) between arc tube and the external electrode unit.

Regarding claim 4, Nishimura discloses the external electrode is made of conductive metal (paragraph 43), is attached to an outside of the dielectric member (paragraph 44), and has a part in contact with the dielectric member (paragraph 44).

Regarding claim 7, the examiner notes that the claim limitation of the electrode member incorporating the external electrodes and the engaging part is arranged inside the dielectric member by insert molding is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (MPEP 2113).

Regarding claim 10, Nishimura discloses a part of dielectric member reflects light emitted from the arc tube towards the aperture (paragraph 44).

Regarding claim 11, Nishimura discloses a part of dielectric member is a light blocking material (paragraph 44, "reflective film").

Regarding claim 15, Nishimura discloses an interval between the external electrodes in the direction of the tube axis is not less than 1.0 mm nor more than 50 mm (paragraph 123).

Art Unit: 2879

Regarding claim 16, Nishimura discloses the discharge medium is xenon (paragraph 28).

Regarding claim 18, Nishimura discloses a phosphor layer (2) being adhered to an inner wall surface of the arc tube.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada (5,869,931) which is cited in the IDS in view of Tamura (6,034,476) which is cited in the IDS.

Regarding claim 1, Terada discloses a lamp (figures 1 and 2) having a cylindrical arc tube (2) with a discharge medium (column 1, lines 12-13, "rare gas"); an internal electrode (3) provided in the arc tube; and an external electrode unit (5, 6, 7) attached to outside of the arc tube.

Terada does not disclose the external electrode unit includes: external electrodes arranged intermittently at plural spaces in a direction of a tube axis, each having a part adjoining an outer wall surface of the arc tube, a engaging part that integrally links the external electrodes and is engaged with the arc tube, and a part of the engaging part holds the arc tube, so that the external electrode unit is held around the arc tube.

Tamura discloses a lamp (figures 7, 12, 13) having external electrode unit (5, 6) including electrodes (5c, 6c) arranged intermittently at plural spaces (figures 12, 13) in a direction of the tube axis, each having a part (rest part of 5 and 6 other than 5c and 6c)

Art Unit: 2879

adjoining an outer wall surface of the arc tube, an engaging part (4) that integrally links the external electrodes and is engaged with the arc tube, a part (part of 4 other than 7) of the engaging part holds the arc tube (1A), so that the external electrode unit is held around the arc tube (figure 7), for the purpose of having more stable electric discharge (column 1, lines 10-12).

The examiner notes that the claim limitation of the voltage being applied between the internal and the external electrodes is drawn to a functional claim limitation which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a functional claim limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject functional claim limitation is not afforded patentable weight (MPEP 2114).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the external electrode unit includes: external electrodes arranged intermittently at plural spaces in a direction of a tube axis, each having a part adjoining an outer wall surface of the arc tube, a engaging part that integrally links the external electrodes and is engaged with the arc tube, and a part of the engaging part holds the arc tube, so that the external electrode unit is held around the arc tube disclosed by Tamura in the lamp disclosed by Terada, for the purpose of having more stable electric discharge.

Regarding claim 2, Tamura discloses the external electrode unit is formed as an electrode member (figures 12 and 13) incorporating the external electrodes (5, 5c, 6, 6c) and the engaging part (4) and is shaped to cover half or more of the arc tube in a circumferential direction (figure 7). The reason for combining is same as claim 1.

Art Unit: 2879

Regarding claim 3, Tamura discloses a dielectric member (column 10, line 1, "adhesive layer") being interposed between the arc tube and the external electrode unit. The reason for combining is same as claim 1.

Regarding claim 4, Tamura discloses the external electrode is made of conductive metal (column 1, lines 63-67), is attached to an outside of dielectric member (column 10, line 1), and has a part in contact with the dielectric member (the electrode is adhered to the arc tube using the dielectric member or adhesive layer). The reason for combining is same as claim 1.

Regarding claim 5, Tamura discloses an area of a portion where the dielectric member and the outer wall surface of the arc tube are in contact with each other is equal to or less than 50% of a surface area of the arc tube (column 7, lines 43-53). The reason for combining is same as claim 1.

Regarding claim 6, Terada discloses the external electrode unit is elastic with spring force (column 3, lines 40-42).

Regarding claim 7, the examiner notes that the claim limitation of the electrode member incorporating the external electrodes and the engaging part is arranged inside the dielectric member by insert molding is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (MPEP 2113).

Regarding claim 8, Terada discloses the external electrode unit includes the engaging part made of a dielectric material (6 and 7) shaped to cover half or more of the arc tube in a circumferential direction, and the external electrode is held in a central region of the engaging part in a circumference direction of the arc tube (figure 2).

Art Unit: 2879

Regarding claim 9, Terada discloses the external electrode unit is elastic with spring force (column 3, lines 40-42).

Regarding claim 10, Terada in view of Tamura does not disclose a part of the dielectric member reflects light emitted from the arc tube in a specific direction. However, Terada discloses the external electrode also functions as a reflector to reflect light emitted from the arc tube in a specific direction (column 3, lines 8-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a reflecting member around the arc tube in the Terada in view of Tamura, for the purpose of reflect light emitted from the arc tube in a specific direction.

Regarding claim 11, Terada in view of Tamura does not disclose a part of the dielectric member reflects light emitted from the arc tube in a specific direction. However, Terada discloses the external electrode also functions as a light blocker to reflect light emitted from the arc tube in a specific direction (column 3, lines 8-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a reflecting member around the arc tube in the Terada in view of Tamura, for the purpose of reflect light emitted from the arc tube in a specific direction.

Regarding claim 13, Tamura discloses a part of outer surface of the dielectric member (4) is uneven (figure 7). The reason for combining is same as claim 1.

Regarding claim 14, Terada discloses the thickness of the dielectric member is changed partially along the length (figure 2, it is the thickest at the edge).

Claims 17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Yajima (2002/0041268).

Regarding claim 17, Nishimura discloses all the claim limitation except for discharge medium including mercury.

Art Unit: 2879

Yajima discloses using mercury (paragraph 115) in a discharge lamp (figures 8A, 8B), for the purpose of enhancing light emissive performance.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use mercury as a discharge medium disclosed by Yajima in the lamp disclosed by Nishimura, for the purpose of enhancing light emissive performance.

Regarding claim 19, Yajima discloses a light control member (figure 8B, 60) for causing light generated by the discharge lamp device to spread out into a planar form (figures 8A, 8B). The reason for combining is same as claim 17.


Regarding claim 20, Yajima discloses the light control member is a light reflector (paragraph 129). The reason for combining is same as claim 17.


Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Bumsuk Won
Patent Examiner


JOSEPH WILLIAMS
PRIMARY EXAMINER